NATIONAL IMAGERY TRANSMISSION FORMAT STANDARD (NITFS)
REQUEST FOR CHANGE (RFC)

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MIL-STD-2500A	**941012**	**27, 84**

DOCUMENT TITLE NATIONAL IMAGERY TRANSMISSION FORMAT (Version 2.0)	PARAGRAPH(S) 5.2.1 (added) 5.10 (added)

NATURE OF CHANGE

See Attached

RECOMMENDED WORDING

See Attached

REASON FOR RECOMMENDATION

Some imagery file generators need to begin transmitting a file before the data is available to populate all required fields in the NITF file header.

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TOTAL COST OF IMPLEMENTATION **Minimal**	PROPOSED TIME FRAME OF IMPLEMENTATION **As soon as possible**

ANTICIPATED USER IMPACT   **The file modifications caused by this proposal should be removed by the first receiving station; that station must have software to process the proposed extension. An uncorrected file will not be readable by users that do not have suitable software (i.e., normal users).**

NTB REVIEW DATE	NTB RECOMMENDATION

SUBSTANTIVE ISSUES

DATE SUBMITTED TO ISMC	DATE SUBMITTED TO DISA
ISMC REVIEW DATE	IMPLEMENTATION DATE
ISMC DECISION	

NITFS-CCB FORM 1 (REV. 5/95)

NITF CORRECTED FILE HEADER CAPABILITY

PROBLEM STATEMENT:

Some imagery file generators need to begin transmitting a file before all the data is available needed to populate all required fields in the NITF file header.

ASSUMPTIONS:

1. The size of the uncompressed image(s) is always known, but the compressed size is not known prior to the start of transmission of the specific image..

2. The content of all required fields in the image subheader is known prior to the start of transmission of that specific image, including SDE and other Tag information.

3. Number of all images and annotations is known prior to start of file transmission.

4. Number of all text components is known prior to start of file transmission.

5. Number of all DESs is known prior to start of file transmission. If the need for overflow DESs is unknown, placeholder DESs (that may have no useful content) can be used to reserve a place for overflow.

ISSUES ADDRESSED:

1. How generic should the proposed mechnism be:

- **Applicable to files containing only a single image? NO**
- **Applicable to files containing single and multiple images? YES**
- **Applicable to JPEG compressed images? YES**
- **Applicable to uncompressed images? YES (May have multiple images in file, but not know the length of follow-on images until transmission has been initiated for previous images.)**
- **Applicable to any combination / permutations of valid NITF content types? YES, as long as number of components are known prior to start of transmission.**
- **Applicable to any Clevel? YES**

2. Should the capability apply to all components of the USIS Architecture? UNRESOLVED

OUTLINE OF PROPOSED SOLUTION

- **Establish codes for length fields in the file header that signal the information is not available. For example, fill the fields with all periods (periods are consistant with the numeric designation of the field type).**

- **Create a specific Reserved Extension Segment (RES) to be placed at the end of the file which contains the corrected file header information.**

ADD new paragraph 5.2.1:

5.2.1 <u>Incomplete Header</u> . **Several fields in the file header are normally used to parse the file, and contain the lengths of specific components of the file (i.e., HL theough LDnnn). If all the fields in the file header cannot be filled with valid data, a special Reserved Extension Segment (see 5.10) shall be used to provide the data needed to complete the file header.   Incomplete fields shall be filled with the appropriate number of "." characters (periods) as placeholders. A system receiving a file with an incomplete header shall locate the reaserved extension segment and copy the data, character by character to the beginning of the file.**

ADD new paragraph 5.10:

5.10 <u>Replacement File Header Reserved Extension Segment</u> The Reserved Extension Segment defined in tables XIX and XX contains the replacement file header values described in 5.2.1. The CFHDR field of this segment shall contain a new version of the file's beginning. A system encountering incomplete file header fields (see 5.2.1) shall update the stored file by locating this segment at or near the end of the file and copying the characters of CFHDR to the beginning (FHDR and subsequent fields). Two unique delimiter fields straddle the characters of the replacement header to facilitate locating this segment by searching the area near the file end in either the forward or reverse direction. To ensure that valid delimiters are found (rather than data containing similar values), the RESCHL length field is repeated and located adjacent to each delimiter; their contents, and the number of characters between the delimiters must all agree. The segment may contain a complete file header or a subset of the file header.

ADD new tables XIX and XX:

TABLE XIX. <u>Replacement File Header RES subheader format</u>
(R) = required, (O) = optional, and (C) conditional

FIELD	NAME	SIZE	VALUE RANGE	TYPE
RE	File Part Type	2	RE	R
RESTAG	Unique RES type identifier	25	"Replacement Header Data"	R
RESVER	Version of the data field definition	2	01	R
RESCHL	Length of CFHDR field	7	0-9999999	R
CFH-DELIM1	Unique delimiter 1	4	0x0A6E1D97	R
CFHDR	Replacement Data	**		R
CFH-DELIM2	Unique delimiter 2	6	0x0ECA14BF	R
RESCHL	Length of CFHDR field	7	0-9999999	R

**As specified in RESCHL

TABLE XX. <u>Replacement file Header RES subheader field definitions</u>.

FIELD	VALUE DEFINITIONS AND CONSTRAINTS
RE	This field shall contain the characters "RE" to identify the subheader as a reserved extension.
RESTAG	This field shall contain "Replacement Header Data " (without quotes).
RESVER	This field shall contain 01, the version number of this definition.
RESCHL	This field shall contain the number of bytes in the field CFHDR.
CFH-DELIM1	This field shall contain the hexidecimal value 0x0A6E1D97. It provides a unique value that can be identified as the beginning of the replacement data.

CFHDR	This field shall contain the character string replacement for the file header beginning with the FHDR field and continuing for the number of characters indicated in RESCHL. The file header replication shall at least continue through all the file header fields that are demarked as incomplete.
CFH-DELIM2	This field shall contain the hexidecimal value 0x0ECA14BF. It provides a unique value that can be identified as the end of the replacement data.
RESCHL	A repeat of RESCHL, this field shall contain the number of bytes in the field CFHDR.

- The candidate RES structure:

FIELD   LENGTH   CONTENT

RE   02   RE

RESTAG   25   "Corrected File Header   " (without the quotes)

RESVER   02   01

RESCHL   07   Number of data bytes between delimiters in
the RESDATA field. This represents the
length of the corrected header fields.

RESDATA   **   The Reserved Extension Data field shall be as
defined in the following table. The length
of this field is RESCHL + 15 bytes.

RESDATA Definition Table

DELIM1   04   0x0A6E1D97

CFHDR   RESCHL   Byte string replacement for file header
beginning with the FHDR field and continuing
for the number of bytes indicated in RESCHL.
The file header replication shall at least
continue through all file header fields that
are demarked for correction.

DELIM2   04   0x0ECA14BF

RESCHL   07   A repeat of RESCHL from the subheader.